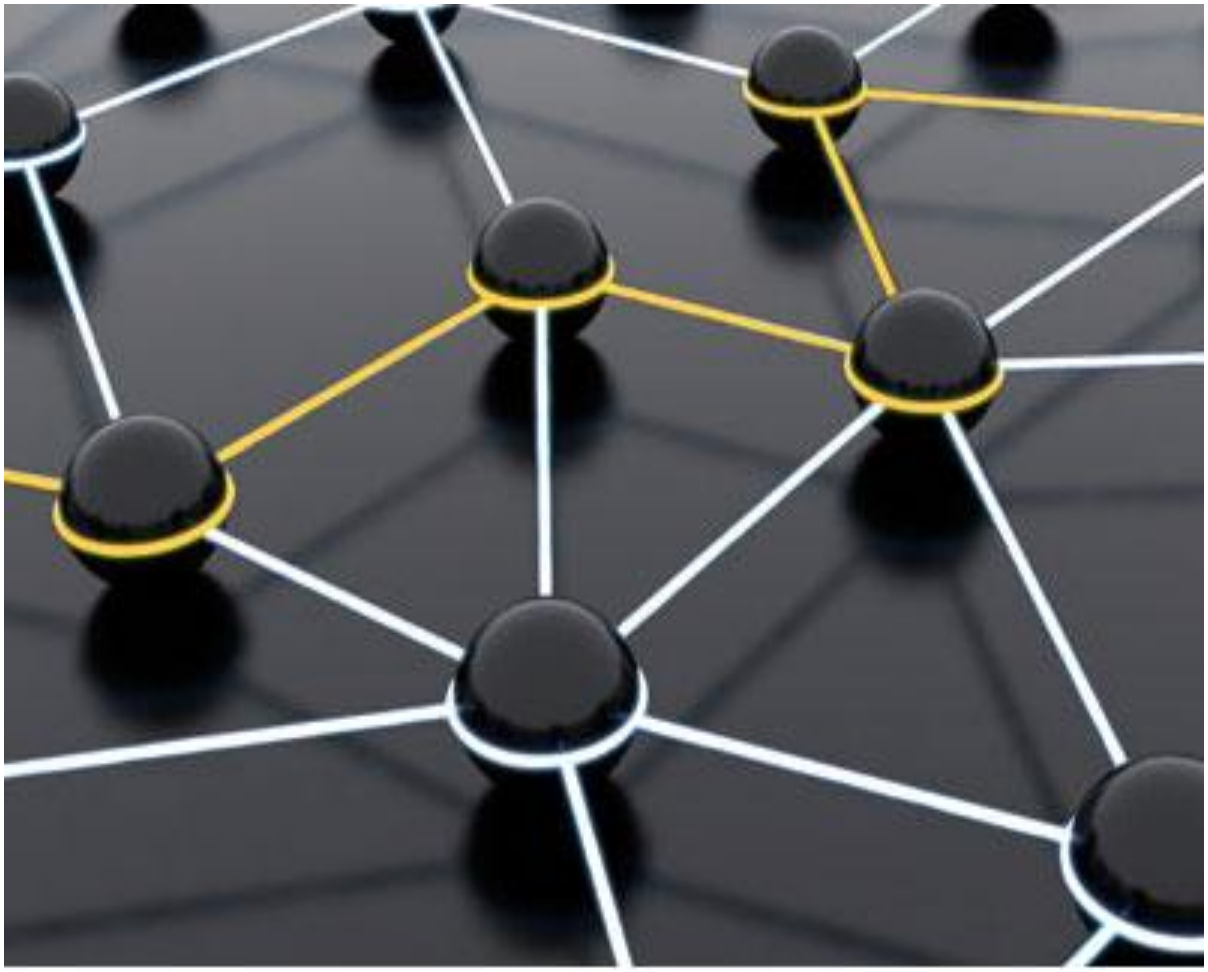
How to Set Up a Home Network



A self-paced instruction manual brought to you by: Michael Thompson

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Introduction

In recent years no household is complete without a computer, usually more than one. What happens if members of your home want to access the Internet at the same time? Do you take turns sharing the Internet service? If so, this manual will eliminate that annoying waiting time and get you surfing the Internet before you know it.

If you are using multiple devices that connect to the Internet without a network put in place it can be very time consuming and irritating. You have to plug and unplug cables from your devices whenever you want to use them. The simple and fairly inexpensive solution to this problem is to setup a home network. This is instruction manual will provide you with simple easy tips to start safely sharing the Internet service in your home.

At the end of this training you will be able to purchase the items to connect a network, connect those devices to the Internet using one Internet service, secure your network so outsiders can't get on your network, and connect a wireless device to your network. At the end of each chapter, you will complete a checklist to ensure you that you have followed all the steps correctly to set up your own home network.

About this Manual

This is an approximately 32 minute instruction manual in which you will learn the basics to setup and protect a home network. At the end of this training you will be able to:

- Purchase the necessary Hardware for your network.
- Activate an Internet Connection.
- Set up your Modem.
- Connect devices to the Router.
- Secure your Network.
- Connect a Laptop to your network.

Before getting started

Complete the following checklist to ensure that you have the basic skills to complete this manual, place a check next to the skill you already have.

_____ You are able to setup your computer.

_____ You are able to use a mouse and keyboard on your computer.

_____ You are able to use a telephone.

_____ You are able to setup a game console.

Note: If you are not comfortable with these skills, refer to your computer, telephone, or game console's user manual before moving on.

Chapter 1- Purchasing the Hardware

You have the skills needed to work through this manual. Now you are ready to purchase the necessary hardware for your network. In this chapter you will become familiar with the necessary items to setup your home network. You will be purchasing the following items before you move onto the next step of this training.

The Motorola SB4220 SURFboard Cable Modem

This modem has the capability to supply high-speed Internet service to your home network. The SB4220 model is Motorola's next generation cable modem. This item is priced between $40 to $65 and can be purchased at many electronic stores as well as online.

The Netgear Wireless-G WGR614 Router

This is a 4 port router that allows users to access the Internet at speeds up to 54 Mbps, which is absolutely fast enough for a home network. This router allows you to connect up to 4 wired devices as well as multiple wireless devices. This Netgear router model is priced between $25 to $50 dollars depending on where it is being purchased. This item can be purchased at many electronic stores as well as online.

CAT5 Ethernet cable

Category 5 (CAT5) cables contain four copper wires within a sealing that are used to join a high-speed Internet service to devices. CAT5 cables come in many different lengths, purchasing lengths depends on how far away your devices are from your router. CAT5 cables are priced between $5 to $75 depending on length and can be purchased at many electronic stores as well as online.

Microsoft's Xbox 360

The Xbox 360 is Microsoft's most current game console. The Xbox 360 can be connected to the Internet to allow users to play games online, download expansion packs, and purchase games and videos on their marketplace. The Xbox 360 comes in 3 different packages with different sized hard drives. The price of the Xbox 360 ranges from $199 to $399 depending on the size of the hard drive. The Xbox 360 can be purchased at many gaming and electronic stores as well as online.

Checklist of items:

The following is a checklist to ensure that you have successfully purchased the necessary items for your network. Check "Yes" if have purchased the item or "No" if you did not purchase the item. If you did not purchase the product or have a variation of the product list this under "Reason."

Item	Yes	No	Reason
Motorola SB4220 SURFboard Cable Modem			
Netgear Wireless-G WGR614 Router			
CAT5 Ethernet cable			
Microsoft's Xbox 360			

Note: If you are using different hardware and are not comfortable continuing onto the next step, refer to the user manual of your hardware. Proceed to the next step when you are comfortable with your hardware.

Chapter 2- Activate your Internet Service

In this chapter, you will learn the process of ordering and having Internet service installed in your home. Depending on where you live there are many companies that offer high speed Internet service, among them is: Verizon, Comcast, AT&T, and Service Electric Cable Vision.

When ordering your Internet service, consider how fast you would like your service to be. For this manual we will be using Service Electric Cable Vision. Service Electric Cable vision offers a variety of tier speeds for uploading and downloading on your network. The following are a list of their speeds:

- Bronze- 384k (kilobytes per second)
- Silver- 3Mbps (megabytes per second)
- Gold- 4Mbps
- Platinum- 10Mbps
- Platinum Plus- 15Mbps

To gain an understanding of these speeds 15Mbps is 267 times faster than dial-up Internet connections. For a basic home network with a game console and wireless devices connected a 3Mbps is ideal for fast downloads and less delay in graphics. Use your own judgment when deciding on what speed you prefer for your home network.

Step 1: Call the Internet service provider and decide which speed you want to have for your network. For the purpose of this manual we will be using Service Electric Cable Vision, their office can be reached at 800-522-2389 or their high-speed Internet packages can be viewed on their website at www.secv.com.

Step 2: You can consult with the operator to set up an appropriate date and time for a technician to come to your home and install your Internet service.

Step 3: At the time of installation, you will obtain an Internet Protocol (IP) address for your service. This IP address a numerical identification used for routing information to the devices on your network. Your Internet Service Provider will supply your service with an IP address. The technician will also connect a source cable to the supply box.

The supply box is usually connected to a power line somewhere near your home. The source cable wire will then run to a box connected to your home.

This source box is connected to your home and contains cable ports for different services such as television or Internet. This box provides a central location for your service provider to connect the source wires to your home.

Step 4: You or the service technician will then run the source cable wire into your home. This will allow you to connect Internet service into your modem. You can then start to set up your modem.

Checklist of items:

The following is a checklist to ensure that you have successfully followed all the steps in activating your Internet service. Check "Yes" if have completed the step or "No" if you did not complete the step. If you are having problems with your Internet Service Provider or are using an alternative an Internet Service Provider list this under "Reason."

Item	Yes	No	Reason
Call an Internet Service Provider			
Set up a date and time for installation			
Obtain a Internet Protocol (IP) Address			
Run the source cable wire into your home			

Note: If you are having any issues with your Internet Service Provider contact them before continuing on to the next step. Many Internet Service Providers can be contacted on their websites. Here is a list of popular Internet Service Providers:

- Verizon: www22.verizon.com
- Comcast: www.comcast.com
- AT&T: www.att.com

Chapter 3- Setting up your Modem

Once you have had an active Internet service running into your home you are ready to setup your modem. A **mo**dulator-**dem**odulator (modem) modulates (digitally picks up a data signal), and demodulates (digitally extracts the data signal) then decodes the signal so the information can be viewed in its original form. The modem is the first piece of hardware you will set up for your home network. At the end of this chapter you will able to successfully set up your modem for your network.

The Motorola SB4220 SURFboard Cable Modem

Front

Back

Power- shows power being supplied

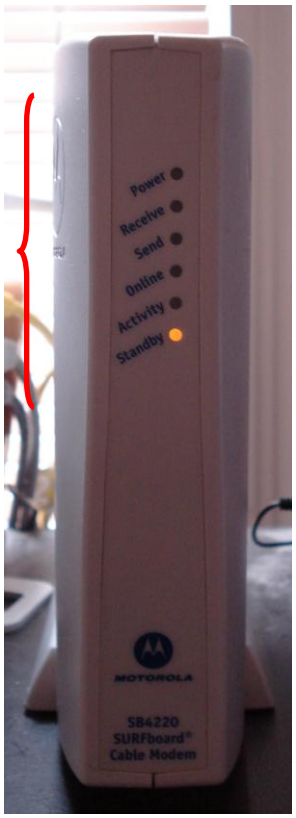
Receive- receiving information

Send- sending information

Online- modem is online

Activity- there is an active signal

Standby- modem is momentarily turned off



Input port

USB port

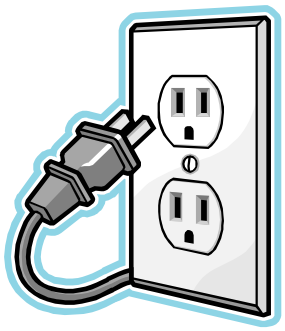
Source port

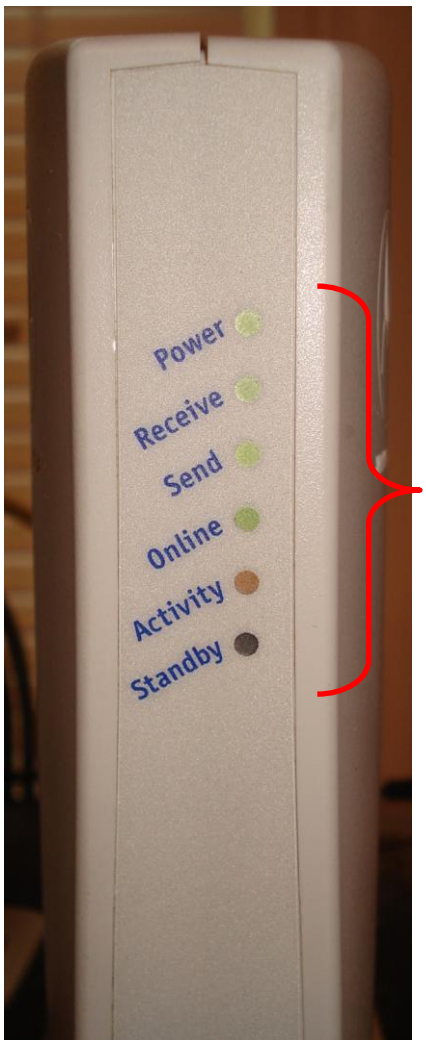
Power port

Step 1: Connect the source cable wire into the source port on the back of your modem.

Step 2: Connect the power cord into the power port of your modem.

Step 3: Connect the power cord into an electrical outlet.





NOTICE that after power is supplied to your modem the lights turn green. The Activity light will blink orange when there is activity to your modem.

Checklist of items:

The following is a checklist to ensure that you have successfully followed all the steps in setting up your modem. Check "Yes" if have completed the step or "No" if you did not complete the step. If you are having problems with your modem or are using an alternative modem than the Motorola SURFboard list this under "Reason."

Item	Yes	No	Reason
Connect source cable wire into source port on the back of your modem			
Connect the power cord into the power port on the back of your modem			
Plug the power cord into an electrical outlet			
Did the lights on your modem turn green?			

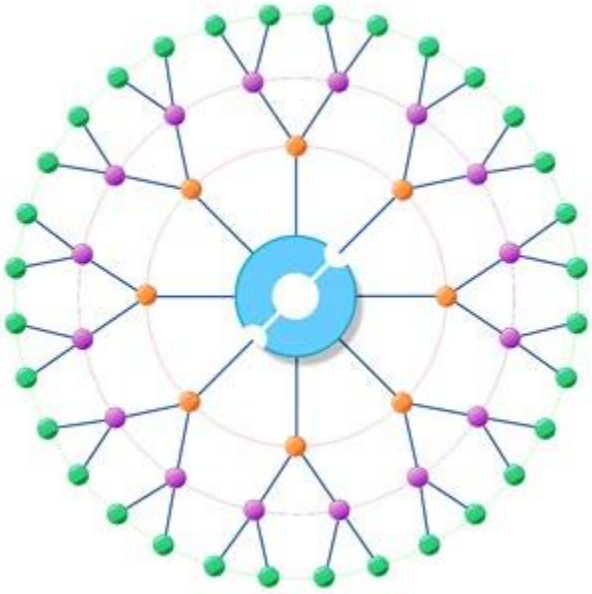
Note: If you are having any issues with your modem refer to the user manual. If you need to contact the hardware company, here is a list of popular modem producers:

- Motorola: www.motorola.com
- Linksys: www.linksys.com/in/
- D-Links: www.dlinks.com

Chapter 4- Connecting Devices to your Router

In this chapter, you will learn how to connect devices to your network through a router. A router is a networking device that "routes" or directs your Internet source to other devices on your network. At the end of this chapter you will be able to successfully complete the following:

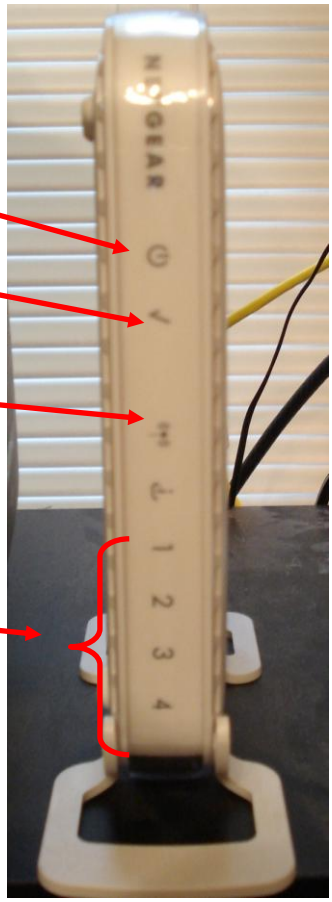
- Connect your modem to your router
- Connect a desktop computer to your router
- Connect a game console to your router
- Supply power to your router



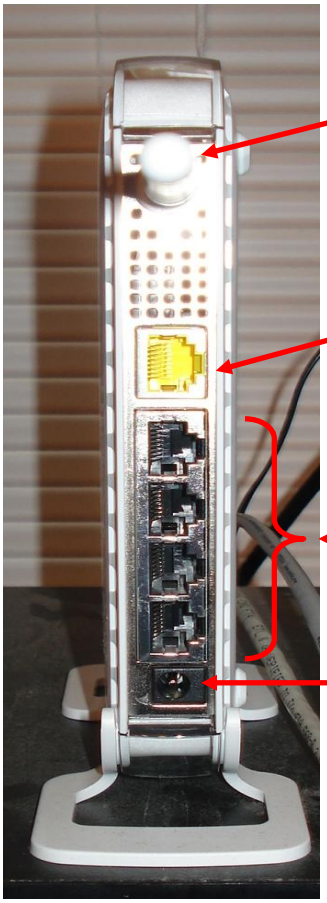
In this chapter you will use three CAT5 cables to connect your devices to your network.

The Netgear Wireless-G WGR614 Router

Front



Back



Step 1: Connect the CAT5 cross over

cable to the yellow Input port of your router.

Note: The cross over cable has the same function of other CAT5 cables, but usually is the color yellow so it does not get confused with other cables plugged into your router.

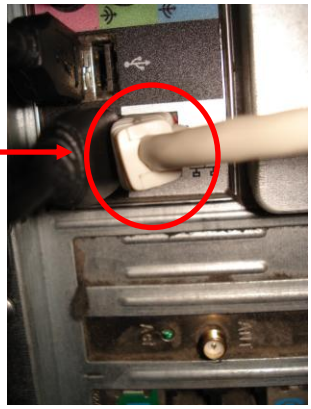
Step 2: Connect the CAT5 cross over

cable to the Input port of your modem.

Step 3: Find the network port on the back of the tower of your desktop computer. Then plug a new CAT5 cable into that port.

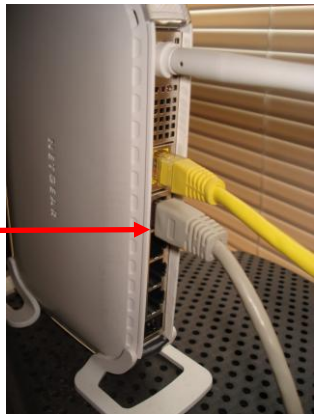
The network port

CAT5 cable plugged in



Step 4: Connect the opposite end of the CAT5 cable you just plugged into your computer into Port1 of your router.

Port 1

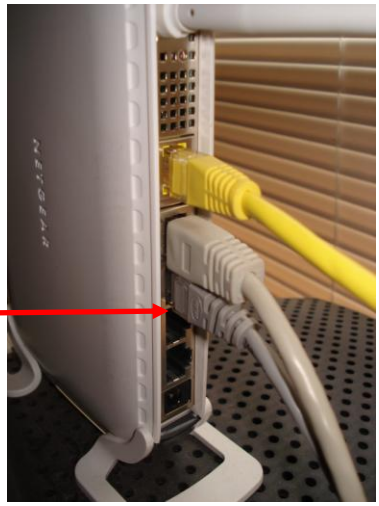


Step 5: Find the network port on the back of your game console. Then plug a new CAT5 cable into that port.

The network port

CAT5 cable plugged in

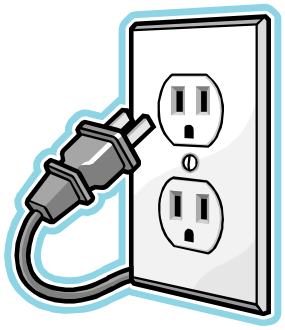
Step 6: Connect the opposite end of the CAT5 cable you just plugged into your game console into Port2 of your router.



Port 2

Step 7: Connect the power cord into the power port of your router.

Step 8: Connect the power cord into an electrical outlet.



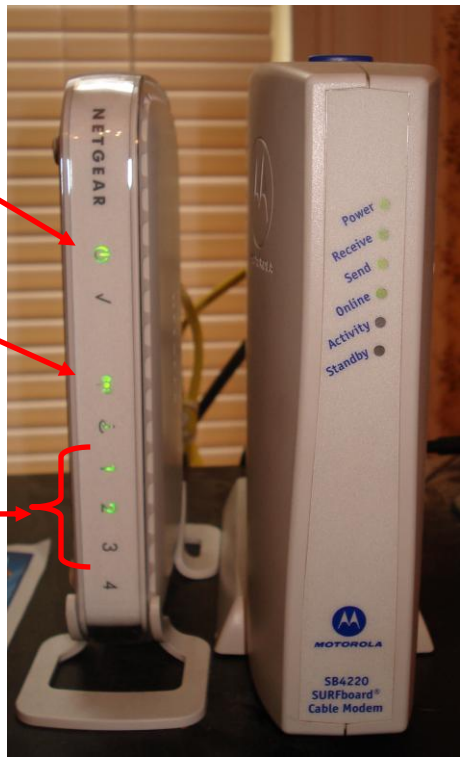
Step 9: Restart your computer.

Front

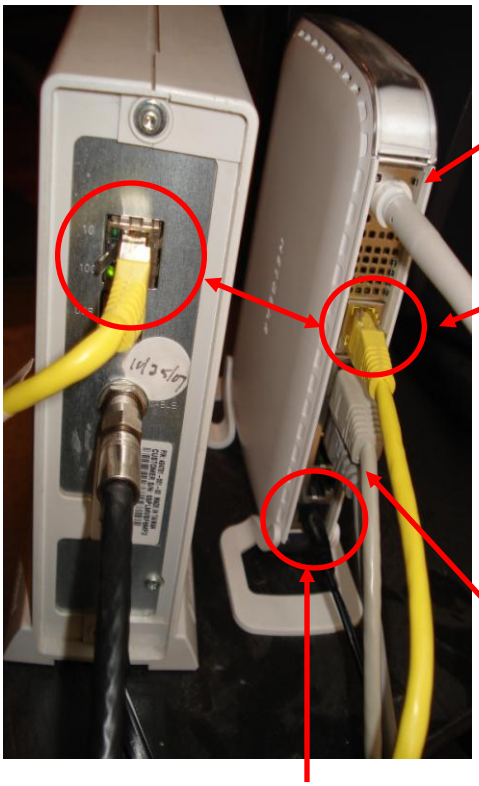
Power light has turned on

Wireless signal is active

Ports 1 and 2 are active



Back



Wireless antenna is plugged in

The Cross cable is plugged in both the modem and router's input port

Ports 1 and 2 are plugged in

Power cord is plugged into the power port

NOTICE: The lights on your router have turned green.

Checklist of items:

The following is a checklist to ensure that you have successfully followed all the steps in connecting devices to your router. Check "Yes" if have completed the step or "No" if you did not complete the step. If you are having problems with your hardware or are using an alternative hardware than the items used in this manual list this under "Reason."

Item	Yes	No	Reason
Connect the CAT5 cross over cable to the Input port of your router			
Connect the CAT5 cross over cable to the Input port of your modem			
Find the network port on the back of the tower of your desktop computer. Then plug a CAT5 cable into that port.			
Connect the opposite end of the CAT5 cable you just plugged into your computer into Port1 of your router			
Find the network port on the back of your game console. Then plug a CAT5 cable into that port.			

Checklist of items (continued):

Item	Yes	No	Reason
Connect the opposite end of the CAT5 cable you just plugged into your game console into Port2 of your router			
Connect the power cord into the power port of your router			
Connect the power cord into an electrical outlet			
Restart your computer			
Did the port numbers on the front of the router turn green?			
Did your devices connect to the Internet?			

Note: If you are having any issues with your hardware refer to the user manual. If you need to contact the hardware company, you will find a list of hardware for networks on the next page.

Routers:	Desktops:
-Netgear: www.netgear.com -Linksys: www.linksys.com/in/ -Belkin: www.belkin.com -D-link: www.dlinks.com	-Dell: www.dell.com -Compaq: www.compaq.com -HP Pavilion: www.shopping.hp.com -Gateway: www.gateway.com
CAT5 Cables:	**Game Consoles:**
-Belkin: www.belkin.com -RiteAV: http://riteav.com -Gefen: www.gefen.com	-Microsoft's Xbox 360: www.xbox.com/en-US/ -Sony PlayStation: www.us.playstation.com -Nintendo Wii: www.nintendo.com

Chapter 5- Securing your Network

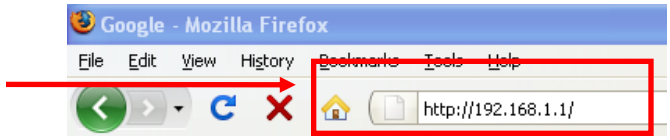
In this chapter you learn the step to secure your network. Once you have connected all the devices you want using CAT5 cables you are ready to secure your network.

Securing your network will keep unintended users out. This will protect your devices from viruses or illegal content being downloaded on your IP address by outsiders. Illegal downloaded content on your IP address can result in being blacklisted from your Internet Providers service and sometimes a large fine. If your network is not protected, intruders can steal items from your network or can download content which WILL be blamed on YOU, not the person doing it.

Securing your network is very important to keep you and your devices safe from unintended users. The following steps will teach you how to secure your network.

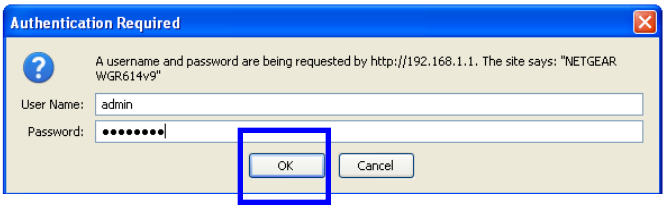
Step 1: Type the default router settings address into your Internet browser. Netgear's default settings address is:

192.168.1.1

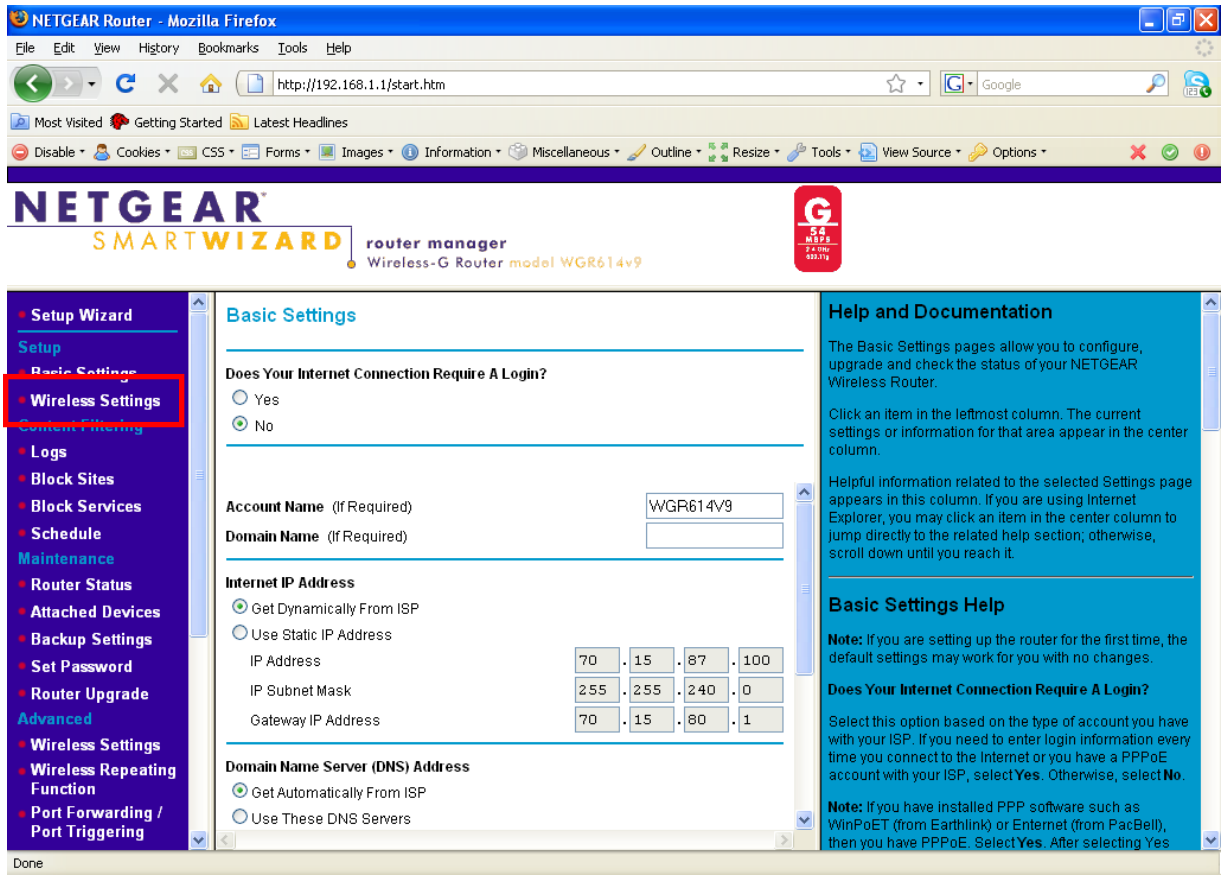


NOTE: Many routers share this same address for the default settings

Step 2: A box with appear that will ask you for a User Name and Password. Netgear's default User Name is: admin and the Password is: password. The click the OK button.



NOTE: This information can be found on the bottom of your router

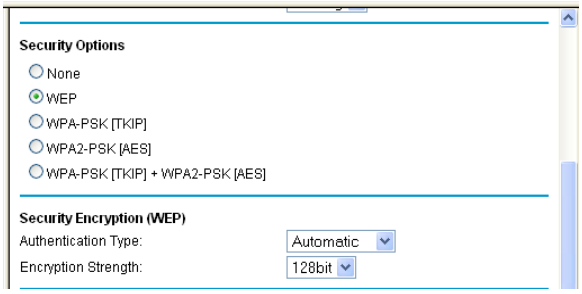


This screen will display the basic settings of your network.

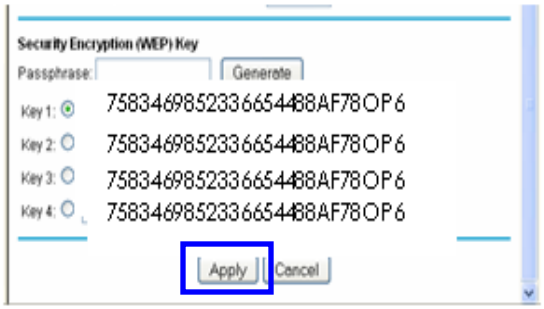
Step 3: Click Wireless Settings

Step 4: Once you have opened the wireless settings window, you want to name your network. In this case the name of the network is “Delilah”

Step 5: Next, you choose the Security type. Wired Equivalent Privacy (WEP) gives you the security that your wireless network will be as secure as your wired devices. Leave the Authentication Type at Automatic and set the Encryption Strength at 128bit. 128bit encryption strength is the strongest bit for WEP security.



Step 6: After you have chosen your Security Type and Encryption Strength, your router will generate a Security Key in which you can set or leave as it is. The generated Security Key is a 26 digit code that is required to enter your network.



It is suggested to leave your Security Key as a generated code (**DO NOT** make your own password), because it is a random code and is very hard for an intruder to obtain. Write down your Security Key, because you will need it when you connect wireless devices to your network. Click the Apply button and you have just secured your network from outside users.

Checklist of items:

The following is a checklist to ensure that you have successfully followed all the steps in securing your network. Check "Yes" if have completed the step or "No" if you did not complete the step. If you are having problems securing your network or are using an alternative router than the Netgear Wireless-G WGR614 list this under "Reason."

Item	Yes	No	Reason
Type the default router settings address into your Internet browser			
Enter "admin" and "password" in pop-up box			
Open the Wireless Settings			
Name your network			
Chose WEP Security			
Chose Encryption Strength			
Obtain Security Key			

Checklist of items (continued):

Write down your Security key			

Note: If you are having any issues with securing your network refer to your router's user manual. If you need to contact the hardware company, here is a list of popular router producers:

- Netgear: www.netgear.com
- Linksys: www.linksys.com/in/
- Belkin: www.belkin.com
- D-link: www.dlinks.com

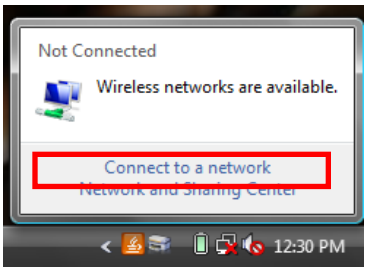
Chapter 6- Connecting a Laptop

In this chapter you will learn the steps to successfully connect a wireless laptop computer to your secure network. A laptop is great way to have your Internet service become mobile. You will be able to move from room to room in your home uploading and downloading items on the Internet. Another great aspect of using a laptop is that it eliminates the hassle of wires all over your home. You can connect multiple wireless devices using only the wireless antenna on the back on your router. The wired ports on the back of your router will not be used to connect wireless devices.

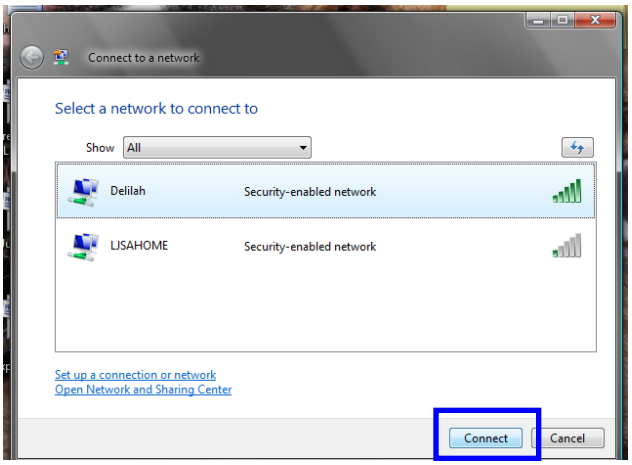
The following pages will provide you with quick, easy tips to connect a wireless laptop to your secure network.

Step 1: Open your laptop and click the Network Connections icon found the lower taskbar next to the time/date.

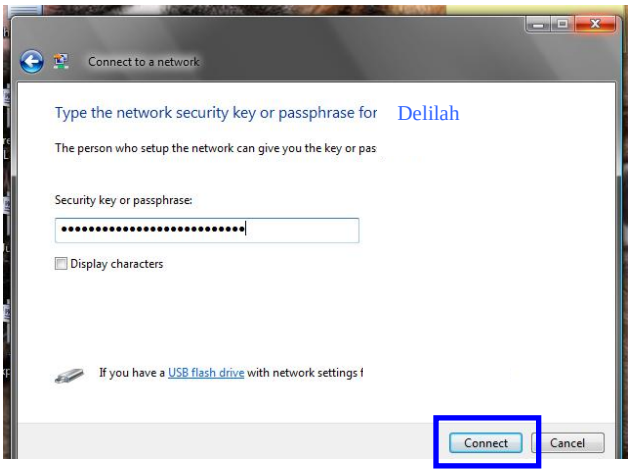
Step 2: When the Network Connections window opens click Connect to a network to view available wireless networks.

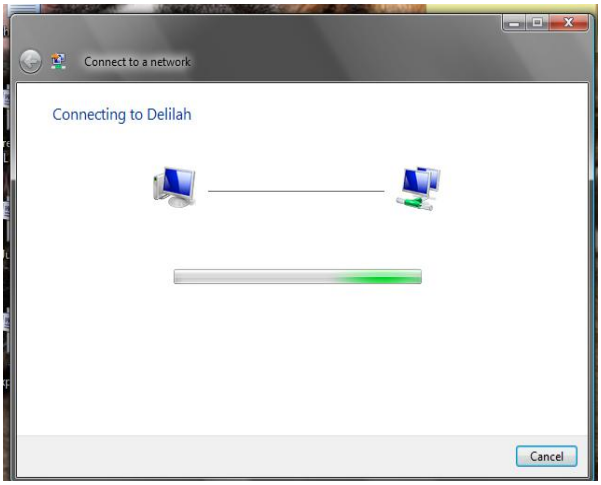


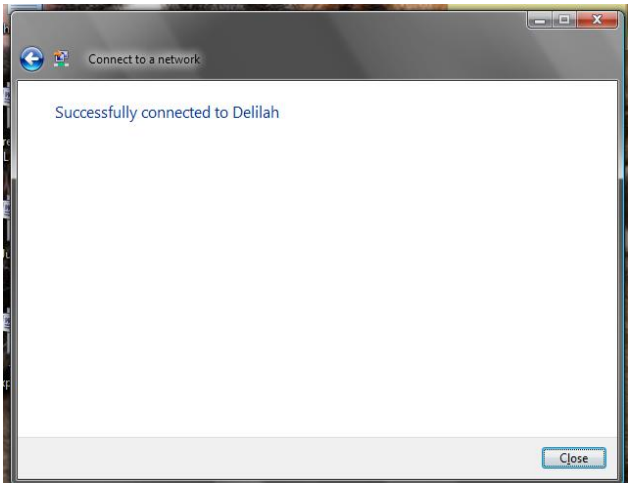
Step 3: When the available wireless networks window appears chose the network you previously named. In this case the network is named “Delilah”. Then click the Connect button.



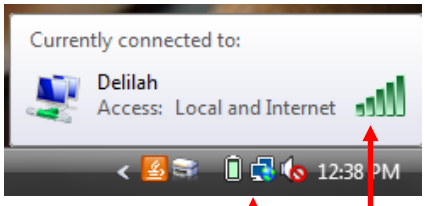
Step 4: Enter the Security Key that you obtained when you secured your network. Then click the Connect button.







Step 5: After you have successfully connected to your network, you can check your signal strength on the Network Connections icon on the lower task bar next to time/date.



Notice that the icon has changed displaying that you are connected to the Internet

These green bars display your signal strength. The more bars that are green the stronger signal you have

Checklist of items:

The following is a checklist to ensure that you have successfully followed all the steps in connecting a laptop to your network. Check "Yes" if have completed the step or "No" if you did not complete the step. If you are having problems connecting a laptop to your network list this under "Reason."

Item	Yes	No	Reason
Open your laptop and click the Network Connections icon			
Clicked Connect to a network to view available wireless networks.			
Chose the network you previously named			
Enter the Security Key			
Check signal strength			

Connect to the Internet on your Laptop			

Note: If you are having any issues connecting your laptop to your network, refer to the laptop's user manual for more details. Here is a list of laptop producing companies:

- Compaq: www.compaq.com - HP Pavilion: www.shopping.hp.com - Gateway: www.gateway.com

Closing- Final Checklist

The following is a final checklist of all the steps you have taken to setup your home network. Check "Yes" if have completed the step or "No" if you did not complete the step. If you are having problems setting up your home network list this under "Reason."

Chapter 1			
Item	**Yes**	**No**	**Reason**
Purchased Motorola SB4220 SURFboard Cable Modem			
Purchased Netgear Wireless-G WGR614 Router			
Purchased CAT5 Ethernet cable			
Purchased Microsoft's Xbox 360			

Chapter 2			
Call an Internet Service Provider			
Set up a date and time for installation			

Final Checklist (continued):

Item	Yes	No	Reason
Obtain a Internet Protocol (IP) Address			
Run the source cable wire into your home			
Chapter 3			
Connect source cable wire into source port on the back of your modem			
Connect the power cord into the power port on the back of your modem			
Plug the power cord into an electrical outlet			
Did the lights on your modem turn green?			

Chapter 4			
Connect the CAT5 cross over cable to the Input port of your router			

Final Checklist (continued):

Item	Yes	No	Reason
Connect the CAT5 cross over cable to the Input port of your modem			
Find the network port on the back of the tower of your desktop computer. Then plug a new CAT5 cable into that port.			
Connect the opposite end of the CAT5 cable you just plugged into your computer into Port1 of your router			
Find the network port on the back of your game console. Then plug a new CAT5 cable into that port.			
Connect the opposite end of the CAT5 cable you just plugged into your game console into Port2 of your			

router			
Connect the power cord into the power port of your router			
Connect the power cord into an electrical outlet			
Restart your computer			

Final Checklist (continued):

Item	Yes	No	Reason
Did the port numbers on the front of the router turn green?			
Did your devices connect to the Internet?			
Chapter 5			
Type the default router settings address into your Internet browser			
Enter “admin” and “password” in pop-up box			
Open the Wireless Settings			

Name your network			
Chose WEP Security			
Chose Encryption Strength			
Obtain Security Key			

Final Checklist (continued):

Chapter 6			
Item	**Yes**	**No**	**Reason**
Open your laptop and click the Network Connections icon			
Clicked Connect to a network to view available wireless networks.			
Chose the network you previously named			
Enter the Security Key			

Check signal strength			
Connect to the Internet on your Laptop			

Congradulations!

You have completed the How to Set Up a Home Network. Hopefully this manual provided the quick, easy tips you needed to get your home network started. Enjoy and have fun surfing the web!